THRILLING MOMENTS IN THE LIVES OF DIVERS

Iron Nerves as Well as Great Strength Are Needed—Startling Adventures at the Bottom of the Sea

PEERING through the glass of his helmet, the diver saw the strange beauty of the world about him, a world curious and calm in its splendor. Above him there seemed to glitter a canopy of purest gold through which the sunlight percolated in broad slanting columns of changing brilliancy. Under his feet—heavy feet, with thick soles of lead—the bottom of the sea reached away yellow and vague, a beautiful carpet of sand that seemed to incline gradually toward the surface.

All about him the lights were changing. First a delicate blue, then a violet, later a deep indigo colored the strange world into which he had ventured. And after the first few moments of waiting before moving toward the sunken hull of the Barbara Jane, which had disappeared off the Florida Keys some months before, the diver saw that everything was slowly deepening into a black that gradually rose about him like a solid wall of granite producing the effect of having been dropped into a deep well.

But his sight becoming accustomed to the peculiar quality of the Gulf water, he made out objects close at hand. To his left, not ten yards from where the diving boat had lowered him, lay the crumbling, jagged hull of the Barbara Jane, a perplexing and wonderful phenomenon, the old hulk seemingly studded with flashing stones and banded in precious metals. He moved slowly over the sands and the fantasy grew. A pile of ballast flashed like a mass of silver; the companionway became bars of gold set with emeralds; every projecting spar, jagged plank, broken cabin ledge, any point or angle that caught the light, glowed with vivid color and brilliancy—a phantom ship at rest on the ocean's floor. And when he cautiously moved toward the hatches which he must batter down before getting at the cargo he noticed that every shadow gave the impression of a huge void and that the sea, filled with gradations of light and darkness, appeared to abound in remote and mysterious caverns.

All these things came to John Grant as he began his work on the Barbara Jane. It was his first experience at deep sea diving and only the month before he had been pronounced ready to take up the hazardous work of his profession. That his first assignment had been the wreck off the Florida Keys had come as a surprise. Divers distrusted those waters, he knew. Too many of them had been attacked by sharks. But the weird beauty of it all was so new, so compelling to John Grant, that he went about the task of smashing the hatches without giving thought to the peril that might be moving toward him from the black water beyond.

Then as he was about to descend into the ship's hold he felt a sudden drumming in his ears. Like the growing beat of some great trip hammer it pounded and pounded until his head was rocking and his body reeling. Something had happened to the air supply. Scarcely knowing what he was doing, so swiftly had the dizziness come over him, he tugged sharply at the life line and the next instant shot upward through the dark water, the pounding in his ears increasing until he lost consciousness.

When they pulled him aboard the diving boat and tore off his helmet they saw blood issuing from his mouth and ears. The sudden change in pressure in the quick bolt to the surface had burst a number of tiny blood vessels. Besides his lungs were in bad shape. Thefailure of the air supply had nearly caused suffocation. Finally they brought John Grant back to consciousness. Then an old diver remarked:

"How he's alive is beyond me. Must have been a shark that bit off the air tube."

To-day John Grant is alive and well. He is not diving now. He gave that up after his experience off the Keys. I have used this case merely to show one of the perils that divers undergo when they venture beneath the surface of the ocean. Theirs is a strange life, a life of thrills and sensations that come to them while in quest of sunken cargo. Many of these thrills are caused by sharks attacking the air pipe and often the man, by rotted hulls collapsing, by entanglement with wreckage and by the psychological effect produced by the finding of a drowned person in some peculiar attitude at the bottom of the sea.

Not a very pleasant occupation, you conclude. And rightly too. But divers are necessary. Not only are they used for the recovering of sunken cargoes, but the navy must employ them too. They are used for laying submarine mines and torpedoes and for cleaning ships' bottoms. As a rule there are two divers for every battleship in the United States navy. Construction work demands them also. When dams, waterworks, reservoirs and docks are to be constructed the contractors must often depend upon divers. So much for their uses. Now let me tell you about another thrill that came to a diver far below the water's surface.

Some years ago William Tompkins was engaged in repairing a dry dock in Pensacola Bay. Huge beams and crossties intersected each other under water, forming a dark any very dangerous honeycomb. When Tompkins was lowered to a depth of five fathoms he saw that the network of beams was so intricate that a diver's body could barely sqeeze between them. But Tompkins's work made it necessary for him to enter that honeycomb. He crawled in.

After a difficult attempt to break down the framework of the interior he found the pressure becoming too severe on his shoulders and turned to go back to the surface. When he came to one of the holes through which he had crawled and attempted to go back he found he was unable to do so. The armor about his head and shoulders acted like the barb of a hook. It caught in the rotted wood. He could pass in, but could not pass out. He struggled for a long time.

Finally the men above, alarmed at his long absence, surmised that a lack of air had perhaps left him senseless. So they increased their efforts on the pumps. Immediately the air came down faster than it should, swelling Tompkins's armor so that he was more effectually caught than ever. Then he knew his position was perilous. Held like a fish on a hook he frantically moved his arms and legs, beating the water as if they were fins.

More air came surging down, inflating the armor still further. At this Tompkins knew there was but one chance—he must open his suit at the wrists where the sleeves were tied, thus giving the air a chance to escape. If he didn't the increased pressure that the pumps had made must surely burst the vessels in his head.

But as he set out to do this he suddenly found himself affected by breathing over again the air in the helmet. Having no chance to escape it had become carbonized and heavy. An intense desire for sleep came over him, but fortunately a long splinter tore at his sleeves and puncturing the rubber let the air escape. The inflation decreasing instantly Tompkins's body tumbled out of the beams that held him and in so doing jerked hard at the lifeline. Immediately men above drew him up swiftly and when his helmet was taken off they found his eyes closed in unnatural slumber. Tompkins had just missed the death that comes to many divers—from entanglement in débris under the water.

So, you see, the difficulties, physical as well as mental, are tremendous. On account of the pressure a diver must descend very slowly, swallowing as he goes. The ascent must be made even more slowly. In the two instances recited the divers suffered from not enough air and too much air. Now let us watch another diver who encountered another peril—the collapse of a sunken hull.

It was off the Delaware Capes. A schooner believed to contain chests of costly silks had gone down and Matthew MacDonald was the diver chosen to recover them. It was a quarter past 10 of a July morning that he donned his rubber suit and helmet on the deck of the diving boat, tested the valves that controlled the air supply and gave word to be lowered over the side. At twenty-five minutes after 10 he was on the deck of the same boat—but senseless. Not long ago I met MacDonald and asked him for his story. It was hard for him to tell it. He is a Scotchman, modest and very careful of his speech. Only after urging would he consent to give the details of his escape from the collapsing wreck of the Sarah B. And this is what he said:

"For a long time I looked on fish as my friends. They were very neighborly when I was working under water. Eels used to swirl around my legs and lobsters clawed at my armor in the most sociable manner. Now I think that all fish are hard luck. If I see any of them gathered about a wreck I'm mighty cautious about that wreck.

"All this would appear to have nothing to do with the Sarah B., but it has. After they lowered me and I came upon the old hulk, black and ugly, I noticed swimming about it a swarm of sculpins. Of course I didn't pay any attention to them, but after I had beaten down the hatches and was ready to climb into the hold their presence became more apparent, and in fact disturbing.

"In twos and threes and then in swarms they threw themselves against me, peering through the windows of my helmet, working their jaws hideously and acting altogether in a very threatening manner. It was unusual and disturbed me not a little after I had entered the hold.

"Now, going into the interior of a sunken ship is a very risky proposition, and I proceeded carefully. I had not taken three steps when I felt something fall behind me. We generally feel things under the water—you can't hear them. And before I had turned I knew that one of the ship's planks had fallen in.

"Behind me and just to the right an oblong of dark green had appeared against the black shadows, and I knew for certain then that a side of the ship had gone. And believe it or not, across the blur of green there appeared suddenly the swarm of sculpins, more hideous than before. The sight of these little creatures coming at such a time bore a strange premonition of danger, and instinctively I hastened toward the hatchway.

"Hardly had I done so when the hull began to collapse. Long jagged lines of green ran up the sides of the vessel like cracks on the wall of a house before an earthquake levels it. Then just ahead of me a huge plank came tumbling and with it a section of the deck and what was left of the cabin. It was an awful tangle and the thought that one of the falling beams might cut the air pipe almost left me helpless in terror.

"I moved cautiously now, just groping before me and praying that the whole vessel would not fall aprat until I was free of it. Fortunately the passage to the hatch was still clear, and making my way up it I had just time to move across the deck and over the side when I felt the whole ship crumble and cave in like a shell of dried out mud.

"If I had been but a few seconds late, if the sculpins had not appeared at the first sign of a plank collapsing, if they had not produced in me a vague uneasiness I would have been caught in the death trap a hundred feet below the surface of the ocean. As it was, I tugged at the line and was drawn to the surface. Here, to my surprise, I found that my hands were shaking, and I knew it was no use for me to attempt to look at that wreckage until after I had had a good rest. The sculpins, you see, had got on my nerves."

All of which bears out the idea that there are mental as well as physical dangers to be found where the ocean's water is so green that it almost changes to black. Also it would indicate that only certain types of men can be used as divers. Not only must they be strong men physically able to support the weight of their rubber and cloth suits, metal helmet and the terrific pressure of the water and to move objects under the surface, but their nerves must be as iron. Moreover, they must be quick thinkers, able to cope with sudden danger.

Such a man was George Means, a quick thinker. I saw him the other day; he is an old man now and he hobbles about with one leg of wood. This is why:

Some time ago the Bella Marta sank with a rich cargo in the Gulf of Mexico. Means was one of the divers detailed on the wreck. He had been down some time when he had trouble with a leaky air valve. Also he was on the point of coming up when the air came stronger and he was able to remain under water. It's too bad the valve didn't leak some more, so that they would have had to jerk Means to the surface. If such had been the case he'd be an old man to-day with two legs of flesh instead of one.

The hull was half buried in sand, and the water remarkably clear. About the Bella Marta loose planks and spars were cast in rough confusion and through these Means had to crawl and wriggle in order to get to the hold. His first work was to break through the hatch, and he had almost succeeded when over his head about fifteen feet there passed a dark shadow. It was a shark.

Instantly Means retraced his steps, clearing himself of the loose wreckage so he could be drawn quickly to the surface. But the shark was coming toward him directly and Means saw his fins move slowly—a horrible shape that slid silently through the clear water. Means knew his chances were slim, but he hoped the shark would attack him instead of the air pipe. One way he had a chance, the other he had none.

Now Means drew his knife, a sharp blade 10 inches long and tapering to a point. Possibly its flash caught the shark's eye, for suddenly he swept through the water and, nearing Means, turned almost on his back so as to give his scissors jaws a chance for freer action. Instantly Means struck with his knife. The long white side of the shark presented an easy target and Means slashed away until the flesh hung in tatters and the water was red with its blood. Then Means threw himself forward on the sand and prayed the shark would swim to clear water. About him everything was hazy red.

He was unnerved. His head was beginning to pound from the bad air. His strength began to go, his arms to become nerveless. With the last effort he pulled at the life line. The bolt through the water began. Upward he shot like a piece of cork released, but before he gained the surface another dread shadow fell across his path and this time the maw of a shark did not miss. And when they hauled Means over the side of the diving boat red appeared not only from his mouth but from the torn flesh of his knee. It was some time before he was able to walk even with the stump that they fastened to it.

Yes, not only are their nerves of iron, but hearts of iron as well. The courage of a diver must be nothing short of the courage of a lion. But sometimes this fearlessness even in the strongest of them is broken and they go no longer into the green depths. The case I mean is this:

A diver (there is no need of telling his name) was sent to recover the body of a young man and his fiance. A yacht had capsized in a squall. After days of searching the diver caught sight of them. The day was unusually bright and as he was not very far below the surface all objects were picked out with astonishing vividness. Coming around the edge of a big ledge of rock, he saw two forms that appeared to be sitting down together on the edge of a jagged stone. A corner of this had caught the woman's dress and held them fast.

The diver saw that her long beautiful hair hung loosely and that she was leaning against the man with one arm around his neck. Coming close, he saw that the man held her tightly with one arm and that the other was stretched out straight, as if grasping for something. Their eyes were wide open and both looked as natural and perfect as life. On her was a diamond engagement ring.

The diver stopped still. He stood still for five full minutes gazing upon them in a sort of fascination. He came to think they must be alive; he felt a hesitancy about intruding. His heart beat, harder and harder until it ached to the point of breaking. Finally he made as if to take a step forward and, overcome, pitched on his face in the sand.

The men above dragged him to the surface and when he was able to speak they learned what he had seen. Immediately another diver was lowered and did the work of rescue that the first could not do. For that man, you see, was broken hearted and retired from the service the next day.

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BIGGEST SIDEWHEELER BUILT

THE passenger steamer Cee-and-Bee, built for the Cleveland and Buffalo Transit Company of Cleveland and launched yesterday from the Wyandotte yard of the Detroit Shipbuilding Company, is the largest sidewheeler in the world. The vessel is of the following dimensions: Length over all, 500 feet; extreme beam over guards, 97 feet 8 inches; depth of hull, moulded, 23 feet 6 inches.

Her crank shaft and piston rods are among the largest forgings ever built in this country. Her guaranteed speed is twenty-two miles an hour, from dock to dock, and to make it she has been given 12,000 horse-power, which is said to be 4,000 horse-power more than any other sidewheel steamer has.

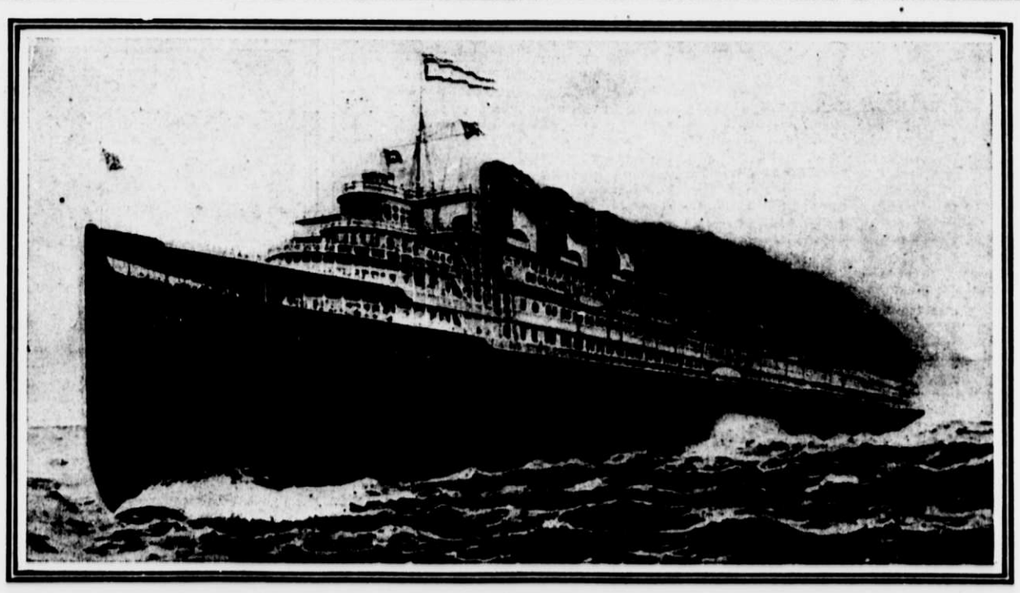
There are sixty-two staterooms fitted with private bath, 424 regulation staterooms and twenty-four parlors en suite with private bath, making a total of 510 rooms. She has sleeping accommodations for 1,500 persons and will carry about 6,000 passengers. Her freight capacity is 1,500 tons, carried exclusively on the main deck for convenience of handling. The steamer will be a blaze of light, having altogether 4,000 electric lamps. The telephone service aboard is equal to the equipment of a small town. Passengers may talk to any part of the ship or to their homes when the vessel is at dock. Communication with land is at all times assured, as the steamer is not only equipped with wireless but carries as well an auxiliary storage battery capable of operating independently for six hours should any derangement occur to the regular equipment.

The steamer has been divided into three great compartments by fireproof doors extending from the main deck to the dome, and in addition to this the vessel is divided into fifty sections for fire alarm purposes, each section containing about eight staterooms, with fire hydrants commanding every section. The hull is of steel.

The steamer's double bottom with water ballast space is divided both longitudinally and transversely into fourteen watertight compartments. The hull above the water bottom is further subdivided by evelen transverse watertight bulkheads extending from the keel to the main deck.

The main dining room is carried out in Adam design with mahogany and white enamel. In addition to a banquet room 24 feet long on the starboard side and two private dining rooms on the port side, there are a number of alcoves with bay windows on both port and starboard sides above the main room, where one may have a fair degree of privacy in dining.

The main saloon is upward of 400 feet long on the promenade deck and subdivided for convenience into several sections. The style of the main saloon is in the Ionic order of architecture, having a wainscoat of carefully selected mahogany highly finished, the upper part finished in fine enamel.



THE CEE-AND-BEE, LARGEST SIDEWHEEL STEAMER IN THE WORLD.

To facilitate quick handling in rivers and harbors the steamer is fitted with a bow rudder besides the usual after rudder. The character of the service is such that the vessel has to navigate somewhat tortuous channels at both Buffalo and Cleveland, and the bow rudder makes her instantly responsive.

LEAVES ONE DAY NAMELESS

One day of the year will have to be an orphan without a name, if the projected reform of the calendar goes into effect. Instead of wandering all through the week in consecutive years, each date will fall on the same day of the week year in and year out. One of those who are working out the present plan to reform the calendar is W. E. G. Buesching of Halle, Germany.

A disadvantage of the present calendar is the inequality of months, quarters and half years. Holidays such as New Year's and Christmas may occur on any day of the week, and this is a source of confusion in the business world. Every day brings certain tasks in every business, and if it were possible to profit by experience and learn how best to perform the tasks which should be done on a holiday the day before or the day after it would be of assistance to business men.

Then, in making comparative reports of receipts, the fact that the same date under the present method does not always fall upon the same week day is annoying, as every bookkeeper knows. Take the case of a newspaper. Monday is a dead day, Sunday the best day in the week both from an advertising and circulation standpoint. But Sunday of this year is Monday of next year, so that it becomes necessary to compare the days of the week and not the same day of the month.

To rearrange and adjust all these differences would be very simple if the sidereal year contained only 364 days, for 364 divided by 7, the number of days in a week, gives fifty-two weeks. But no juggling of figures can squeeze 365¼ days into fifty-two weeks of seven days each. There is a leap year every fourth year in order to stow away that troublesome one-fourth day, which cannot be packed into the week, and if one entire day is to be left over each year there is only one thing to do. The overflow day will have to go without a week day name.

A good many clever minds have been busy devising ways and means to deal with the problem. Five plans from five different technically trained men are identical. This plan proposes to let December 31 go without a weekday name, because it is the last day of the year, giving it some individual name all its own. Instead of continuing February 29 as the extra day of leap year, a day is to be added to June, and the 31st of June is to take the place of February 29. February is to have thirty days, like other well regulated months. Eight months will have thirty days and four months thirty-one days, in order to procure the two additional days for ill provided February.

Easter is to occur on April 8. April 1 had been suggested but was rejected for a variety of reasons. In the first place April 1 is All Fools' day, and in addition the first of the month is a busy day for many people.

The new calendar has one enormous advantage over the old. Memory is apt to attach itself to days of the week rather than to dates. A witness in a murder case was asked on what date a certain event had occurred. He was unable to answer, but was able to tell on what day of the week and in which week of the month the event had occurred. When asked why he happened to remember the day of the week when he could not give the date he replied, "I know it was Thursday because we always eat pea soup on Thursday."